

## REMARKS

Claims 2 - 15, 25, 26, 31, 38 - 44, 46 and 47 remain active in this application. Claims 1, 16 - 24, 27 - 30, 32 - 37 and 45 have previously been canceled. Claims 13, 38 and 44 have been amended to adopt the Examiner's suggestions. Support for the amendments of the claims is found throughout the application, particularly in Figure 2 and 3 and the description thereof on pages 11 and 12 of the specification as originally filed. No new matter has been introduced into the application.

The Examiner has objected to all claims; asserting informalities in claims 13, 38 and 44. This objection is respectfully traversed as moot in view of the above amendments to claims 13, 38 and 44. While no authority is indicated by the Examiner for asserting claims 13, 38 and 44 to be informal and no difference in scope or clarity of these claims is seen in the suggested language, the suggestion language of language deemed preferable by the Examiner is appreciated and has been adopted. Accordingly, reconsideration and withdrawal of this ground of objection is respectfully requested.

Claims 2 - 15, 25, 26, 31, 38 - 44, 46 and 47 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement of the Statute. This ground of rejection is respectfully traversed for the reasons of record which are hereby fully incorporated by reference and the further remarks provided below.

It is respectfully submitted that 35 U.S.C. §112, first paragraph, only requires that the written description of the invention be sufficient to enable a person *skilled in the art* to make and use the invention.

It is well -established that a person *skilled in the art* is a person with a high level of familiarity with the field of the invention and the particular technologies involved in the invention but having less than the level of skill in the art required for invention. Therefore, it is respectfully submitted that a person skilled in the art would at least be familiar with welding and cladding using lasers and the like as a heat source.

As previously pointed out, page 11, lines 10 - 15, of the original application states, with reference to Figures 2 and 3 (emphasis added):

"The laser beam 10 is scanned along the die surface 13A, so as to melt or "puddle" an area 17 in the surface 13A, along a *path* corresponding to the desired blade pattern. Upon such melting or puddling, the powder 16A is fed into *the area* being clad by the laser so that in one pass along the surface 13A, as illustrated in Fig. 13 (sic - Fig. 3), a die blade of half ellipse cross-sectional dimension is formed."

It is respectfully submitted that this passage of the original application is sufficient, in and of itself, to not only enable one skilled in the art to make and use the invention to develop its meritorious effects, but also to convey an understanding that the die blade shape is developed by applying the blade material powder to "*the area*" being clad by the laser which is within the same area as that of the puddle (but not the *identical* area on which the laser beam impinges, as clearly illustrated in Figure 2) since the above passage explicitly states that the powder is applied to "*the area*" which is clearly the same area as the "puddle" (e.g. "...to melt or "puddle" an area 17..." (as

illustrated in Figure 2) and without reference to the laser or laser position or to direct heating of the powder by the laser) and the application of powder is performed "[u]pon such melting or puddling" and that a blade (e.g. weld/cladding bead) of the *highly distinctive and desirable shape* (referred to as being "of half ellipse cross-section") illustrated in Figure 3 results when this is done. Further, page 12, lines 4 - 6, refers to the blade shape of Figure 3 resulting from "the deposition of powder through a powder nozzle", again without reference to the laser or heating of the powder directly by the laser. Ample evidence has been made of record, including photographs of the results of this process and comparative photographs of weld beads achieved by different processes (e.g. where the powder was principally heated directly by the laser beam and arrives at the die body surface in a molten or semi-molten state) which demonstrate that a highly distinctive and meritorious result is achieved by simply following the instructions explicitly provided in the original application. Accordingly, it is respectfully submitted that the written description requirement of the Statute has clearly been met and that the original disclosure is clearly adequate to enable one skilled in the art to make and use the invention.

Moreover, several passages of the original application clearly convey to one skilled in the art that the melting of the powdered material occurs principally by the heat of the molten puddle. Specifically, page 7, lines 17 - 18, and page 16, lines 1 - 3, for example, explicitly disclose that a blade shape having a "higher or greater depth" can be developed in a single pass (or that a blade of shape similar to that of Figure 3 can be developed with a blade material of higher melting

temperature as noted on page 16) can be developed using a laser of higher power. One skilled in the art would understand from these passages, together with the passages of pages 11 and 12, discussed above, that the temperature of the puddle and the ability of the puddle to supply heat to melt the powder applied thereto is an important parameter of the process and sufficient to the practice of the invention.

In this regard, the Examiner's criticisms asserted in the discussion of this ground of rejection are directed to the Examiner finding no verbatim support for the phrases "by heat from said puddle" and "along a further area of said die body". It is respectfully submitted that verbatim support is not required by the Statute and that such features of the invention are well-supported by the understanding which would be conveyed to a person skilled in the art at the time the invention was made by the original disclosure, as discussed above. Further, in regard to claim 47, criticism of the claim as being vague is clearly inappropriate under 35 U.S.C. §112, first paragraph, and the inclusion of that criticism is also redundant over the rejection of claims 46 and 47 under 35 U.S.C. §112, second paragraph which will be addressed below. Accordingly, it is respectfully submitted that this ground of rejection is clearly and substantively in error and reconsideration and withdrawal thereof are respectfully requested.

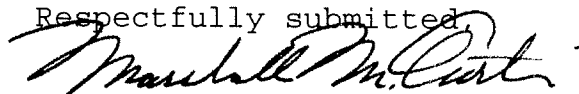
Claims 46 and 47 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite; the Examiner asserting that these claims contradict claims from which they depend since a coaxial powder feeder would necessarily deliver powder into the laser beam and to the same area of the die body on which the laser beam impinges at any given time. As previously pointed out to

the Examiner, including the interview of June 7, 2007, a coaxial powder feeder can feed powder to the die body surface/puddle in a pattern which surrounds the beam and without feeding any significant amount of powder directly into the laser beam. Therefore, it is respectfully submitted that there is not inconsistency between feeding blade material powder into the puddle (to the substantial exclusion of feeding the blade material powder into the laser beam) and claiming that the powder feeder is coaxial with the laser. Accordingly, it is respectfully submitted that there is no basis in fact supporting this asserted ground of rejection and reconsideration and withdrawal thereof are respectfully requested.

Since all rejections, objections and requirements contained in the outstanding official action have been fully answered and shown to be in error and/or inapplicable to the present claims, it is respectfully submitted that reconsideration is now in order under the provisions of 37 C.F.R. §1.111(b) and such reconsideration is respectfully requested. Upon reconsideration, it is also respectfully submitted that this application is in condition for allowance and such action is therefore respectfully requested.

Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Marshall M. Curtis  
Reg. No. 33,138

Whitham, Curtis, Christofferson & Cook, P. C.  
11491 Sunset Hills Road, Suite 340  
Reston, Virginia 20190  
(703) 787-9400

Customer Number: 30743